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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/585,971

07/13/2006

Rudiger Kolblin

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EXAMINER

DUKE, EMMANUEL E

ART UNIT

PAPER NUMBER

3784

MAIL DATE

DELIVERY MODE

04/25/2011

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/585,971	Applicant(s) KOLBLIN ET AL.	
	Examiner EMMANUEL DUKE	Art Unit 3784	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02/08/2011.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 07/13/2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|----------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>01/27/2011</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Examiner's Comments

1. For applicant's information, Drawings objection has been withdrawn.

Applicant's amendments to the specification, which removed the informality, overcome the previous objection to the specification.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a)

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.

4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1-8, 10 and 13-14 are rejected under 35 U.S.C. 103(a) as being *unpatentable over Mendler et al. '394, in view of Tajima et al. (U.S. Patent No. 5,165,468)*, hereinafter referred to as *Tajima et al. '468*.

Regarding Claim 1, Mendler et al. '394 disclose a heat exchanger having a plate-type design (Fig. 1 and 2: Col 2, lines 26-37, wherein an oil cooler is a heat exchanger having a plate-type design), comprising: at least two adjacent heat exchanger plates (2, Fig. 5: Col 2, lines 26-37) defining an inter-space (3, 4, Fig. 5: Col 2, lines 26-37) through which a heat exchanger medium (Col 2, lines 26-37, wherein a media is a heat exchanger medium); or a second medium: to be cooled or to be heated flows: wherein the at least two adjacent heat exchanger plates are arranged in a stack (Col 2, lines 26-27), and a base plate (Fig. 5: Col 2, lines 55-67, wherein a reinforcing disk 12 constitutes a base plate), wherein the base plate is provided at one end of the stack (as shown in Fig. 5), wherein the base plate is in at least substantially flat, direct (as shown in Fig. 3 and 5) contact with an adjacent outermost heat exchanger plate (2, Fig. 5: Col 2, lines 26-37) of the heat exchanger, except the limitation of wherein the base plate comprises a depression with a contour having a shape that is the same shape as an entire outer edge of a bottom surface of the adjacent outmost heat exchanger plate.

Tajima et al. '468 teach: that the oil cooler base plate comprises a depression (see annotated Fig. 2: wherein 47d constitutes a depression) with a contour (see annotated Fig. 2: wherein 47c constitutes a contour) having a shape (see annotated Fig. 2: wherein 41s constitutes a shape) that is the same shape as an entire outer edge of a bottom surface (see annotated Fig. 2: wherein 41b constitutes an entire outer edge of a bottom surface) of the adjacent outmost heat exchanger plate. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the Mendler et al. '394 base to include a depression with a contour having a shape that is the same shape as an entire outer edge of a bottom surface

Art Unit: 3784

as taught by Tajima et al. '468 in order to housing with a connection surface for bolting the cooler to an object (Tajima et al. '468 - Col 2, lines 61-62).

Regarding Claim 2, the combination of Mendler et al. '394 and Tajima et al. '468 disclose and teach the heat exchanger as claimed in claim 1; Mendler et al. '394 disclose wherein flanks (Fig. 5: Col 3, lines 1-3, wherein 16 is a flank) of the outermost heat exchanger plate bear, at least in a lower region of the flanks, against flanks (14, Fig. 5: Col 3, lines 11-15) of the contour of the base plate, wherein the contour formed by the depression is recessed in the based plate.

Regarding Claim 3, the combination of Mendler et al. '394 and Tajima et al. '468 disclose and teach the heat exchanger as claimed in claim 1; Mendler et al. '394 disclose wherein one edge of the outermost heat exchanger plate protrudes (2a, Fig. 5: Col 2, lines 26-30) over the base plate.

Regarding Claim 4, the combination of Mendler et al. '394 and Tajima et al. '468 disclose and teach the heat exchanger as claimed in claim 1; Tajima et al. '468 further disclose the limitation of wherein the depression in the base plate has a thickness (as shown in annotated Fig. 2) greater than a material thickness (Fig. 2: Col 2, lines 51-52, wherein a aluminum plate constitutes a material thickness) of one of the at least two heat exchanger plates.

Regarding Claim 5, the combination of Mendler et al. '394 and Tajima et al. '468 disclose and teach the heat exchanger as claimed in claim 1; Mendler et al. '394 disclose wherein the depression in the base plate has a depth (Fig. 2: wherein depth the base plate is a depth) at least as great as a material thickness (see annotated Fig. 5: Col 3, lines 8-10, wherein $2t$ is a material thickness) of one the heat exchanger plates plus half of a clear height (see annotated Fig. 5: wherein $4h$ is half of a clear height) between the adjacent outermost heat exchanger plate, which bears against the base plate, and a second outermost heat exchanger plate (2, Fig. 5: Col 2, lines 26-37).

Regarding Claim 6, the combination of Mendler et al. '394 and Tajima et al. '468 disclose and teach the heat exchanger as claimed in claim 1; Tajima et al. '468 further disclose the limitation of wherein the depression in the base plate is at least as deep as a material thickness (as shown in annotated Fig. 2) of one of the at least two heat exchanger plates of the heat exchanger plus a clear height (see annotated Fig. 2: wherein 41h constitutes a clear height) between the outermost heat exchanger plate, which bears against the base plate, and a second outermost (see annotated Fig. 2: wherein 41d constitutes a second outermost) heat exchanger plate.

Regarding Claim 7, the combination of Mendler et al. '394 and Tajima et al. '468 disclose and teach the heat exchanger as claimed in claim 1, wherein the contour in the base plate is produced by embossing, casting or machining, the applicant should note that this statement is considered a product-by-process limitation. In product-by-process claims, "once a product appearing to be substantially identical is found and a 35 U.S.C. 102/103 rejection is made, the burden shifts to the applicant to show an unobvious difference." MPEP 2113. This rejection under 35 U.S.C. 102/103 is proper because the "patentability of a product does not depend on its method of production." In re Thorpe, 227 USPQ 964, 966 (Fed. Cir. 1985).

Regarding Claim 8, the combination of Mendler et al. '394 and Tajima et al. '468 disclose and teach the heat exchanger as claimed in claim 1; Mendler et al. '394 disclose wherein the base plate has at least one supply opening (see annotated Fig. 1: wherein the 6s is one supply opening) for the heat exchanger medium or the second medium.

Regarding Claim 10, the combination of Mendler et al. '394 and Tajima et al. '468 disclose and teach the heat exchanger as claimed in claim 1; Mendler et al. '394 disclose wherein the heat exchanger is an oil cooler (Col 2, lines 26-27).

Regarding Claim 13, the combination of Mendler et al. '394 and Tajima et al. '468 disclose and teach the heat exchanger as claimed in claim 1; Tajima et al. '468 further disclose the limitation of wherein the contour of the depression has a shape contour (see annotated Fig. 2:

Art Unit: 3784

wherein the contour 47c constitutes a shape) that matches a shape (see annotated Fig. 2: wherein 41s constitutes a shape) of an outer edge of a bottom surface (see annotated Fig. 2: wherein 41b constitutes an entire outer edge of a bottom surface) of the adjacent outermost heat exchanger plate.

Regarding Claim 14, the combination of Mendler et al. '394 and Tajima et al. '468 disclose and teach the heat exchanger as claimed in claim 1; Tajima et al. '468 further disclose the limitation of wherein the depression comprises a curved portion (see annotated Fig. 2: wherein 47p constitutes a curved portion) of the depression of the base plate which transitions from a bottom surface (see annotated Fig. 2: wherein 47b constitutes a bottom surface) of the depression to a side wall (see annotated Fig. 2: wherein 47w constitutes a side wall) of the depression, wherein the curved portion of the depression is in contact with a corresponding curved portion (see annotated Fig. 2: wherein 41p constitutes a curved portion) of the adjacent outermost heat exchanger plate which transitions from the bottom surface of the adjacent outermost heat exchanger plate to a side wall (see annotated Fig. 2: wherein 41w constitutes a side wall) of the adjacent outermost heat exchanger plate.

Claims 9 and 11-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Mendler et al. '394 and Tajima et al. '468 as applied to claim 1*, in view of Kull et al. (**U.S. Patent No. 5,931,219**), hereinafter referred to as Kull et al. '219.

Regarding Claim 9, the combination of Mendler et al. '394 and Tajima et al. '468 disclose and teach the heat exchanger as claimed in claim 1, except the limitation of wherein the heat exchanger is a charge-air/coolant cooler.

Kull et al. '219 teach: a heat exchanger (30, Fig. 3: Col 4, line 8) is a charge-air/coolant cooler (Col 5, lines 15-16) for an internal combustion engine. Therefore, it would have been

Art Unit: 3784

obvious to one having ordinary skill in the art at the time the invention was made to modify the Mendler et al. '394 and Tajima et al. '468 heat exchanger to include the use of a charge-air/coolant cooler as taught by Kull et al. '219 in order to provide a high heat transmission capacity (Kull et al. '219 - Col 6, lines 22-23).

Regarding Claim 11, the combination of Mendler et al. '394 and Tajima et al. '468 disclose and teach the heat exchanger as claimed in claim 1, except the limitation of wherein the heat exchanger is an exhaust gas cooler.

Kull et al. '219 teach: that the heat exchanger (30, Fig. 3: Col 4, line 8) is an exhaust gas cooler (Col 5, lines 16-17) for an exhaust-gas recycling system. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the Mendler et al. '394 and Tajima et al. '468 heat exchanger to include the use of an exhaust gas cooler as taught by Kull et al. '219 in order to provide cooling of exhaust-gas in an exhaust-gas recycling system (Kull et al. '219 - Col 5, lines 18-19).

Regarding Claim 12, the combination of Mendler et al. '394 and Tajima et al. '468 disclose and teach the heat exchanger as claimed in claim 1, except the limitation of wherein the heat exchanger is an evaporator.

Kull et al. '219 teach: a heat exchanger (30, Fig. 3: Col 4, line 8) is an evaporator (Col 2, line 51, wherein heat exchanger is an evaporator) for an internal combustion engine. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the Mendler et al. '394 and Tajima et al. '468 heat exchanger to include the use of an evaporator as taught by Kull et al. '219 in order to provide cooling for an exhaust-gas of an internal combustion engine (Kull et al. '219 - Col 2, lines 29-32).

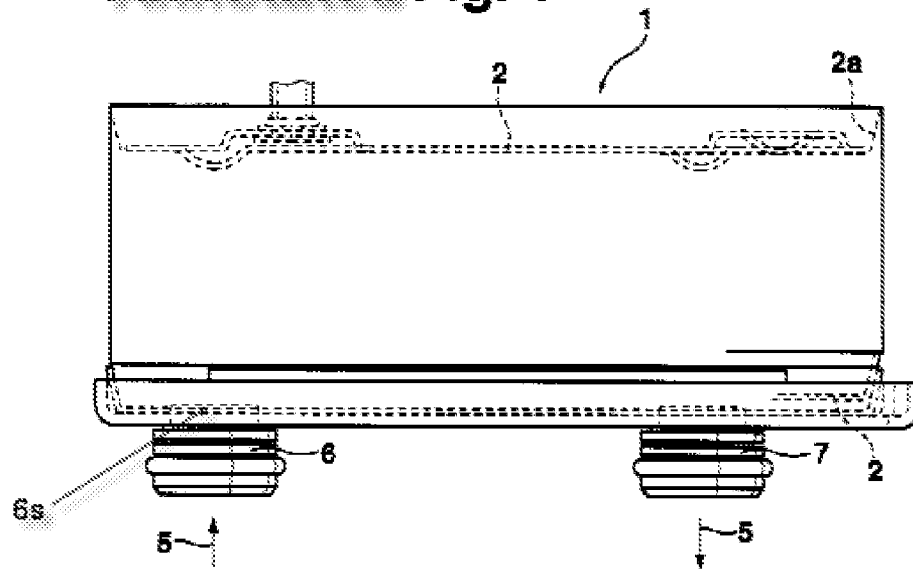
U.S. Patent

Jul. 27, 1999

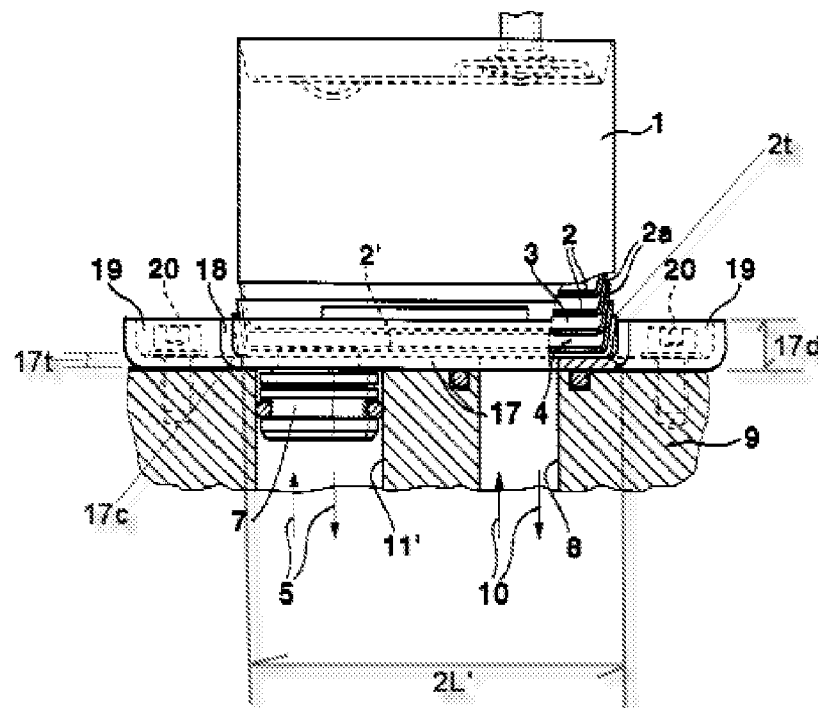
Sheet 1 of 2

5,927,394

Annotated Fig. 1



Annotated Fig. 2



U.S. Patent

Jul. 27, 1999

Sheet 2 of 2

5,927,394

Fig. 3

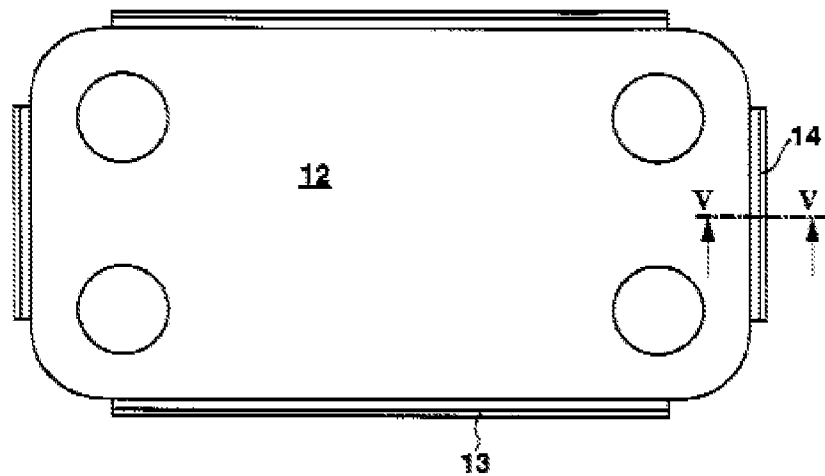
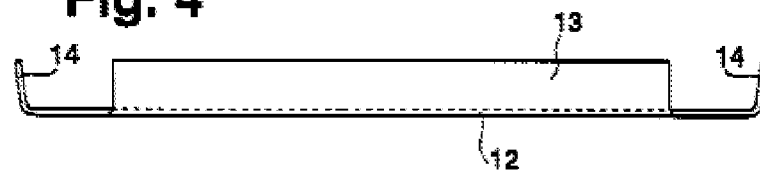
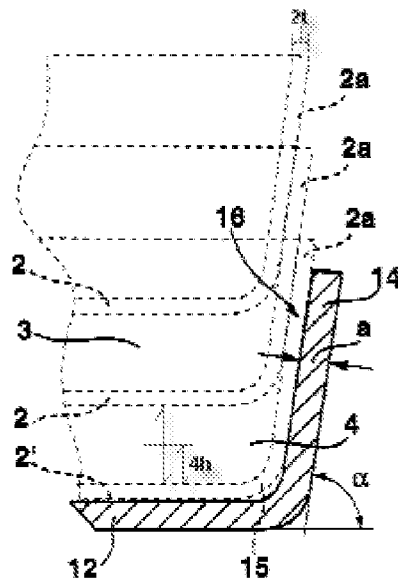


Fig. 4



Annotated Fig. 5



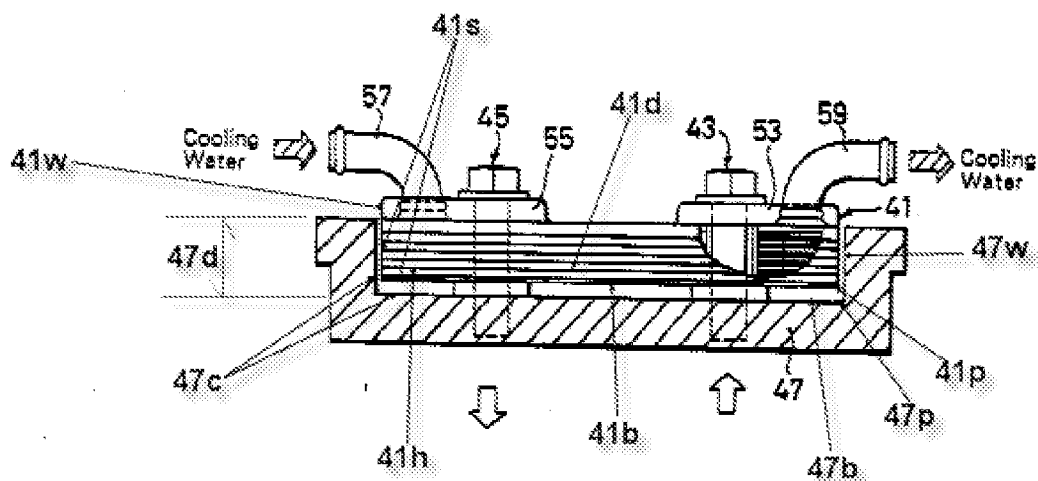
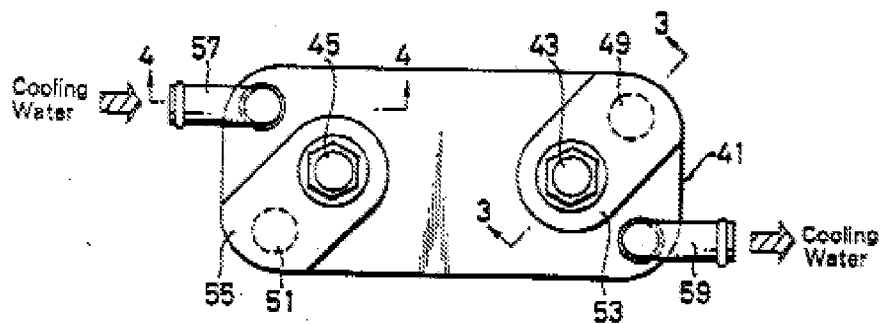
U.S. Patent

Nov. 24, 1992

Sheet 1 of 3

5,165,468

FIG. 1



Annotated FIG. 2

Response to Arguments

3. Applicant's arguments, see pages 6-8, filed 02/08/2011, with respect to the rejection(s) of claim(s) 1-8, 10 and 13 under 35 USC § 102(b) and claim(s) 9 and 11-12 under 35 USC § 103(a) have been fully considered but are moot in view of the new ground(s) of rejection of claim(s) 1-8, 10 and 13 under 35 USC § 103(a) as being unpatentable over Mendler et al. '394 in view of Tajima et al. '468; and claim(s) 9 and 11-12 under 35 USC § 103(a) as being unpatentable over Mendler et al. '394, in view of Tajima et al. '468, further in view of Kull et al. '219 as state above.

Conclusion

4. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to EMMANUEL DUKE whose telephone number is (571)270-5290. The examiner can normally be reached on Monday - Friday; 8:00am - 5:00pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cheryl Tyler or Frantz Jules can be reached on 571-272-4834 or 571-272-6681. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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Supervisory Patent Examiner, Art Unit 3744

/EMMANUEL DUKE/
Examiner, Art Unit 3784
04/19/2011